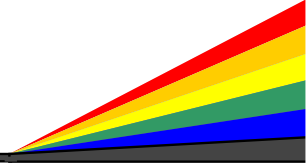


APS COLLOQUIUM SERIES



Speaker: **Barry Barish**
 California Institute of Technology

Barry Barish has been a Linde Professor of Physics at the California Institute of Technology from 1991 to the present, and is the Director of the Laser Interferometer Gravitational-Wave Observatory (LIGO). He obtained his B.A. degree in physics and his Ph.D. in experimental high energy physics from the University of California, Berkeley. Beginning in 1985, he led an ambitious effort to search for the magnetic monopole predicted in theories of Grand Unification. This experiment was one of the first large non-accelerator or particle astrophysics experiments in high-energy physics. Subsequently, he has been a leader in the emerging field of particle astrophysics. Dr. Barish presently continues involvement in high energy physics experiments through participation in the MINOS experiment. In 1994, Barry Barish turned to a different sub field of physics when he became the Principal Investigator of the LIGO project.

Title: **“LIGO and the Search for Gravitational Waves”**

Einstein predicted the existence of gravitational waves in 1916 as a consequence of the general theory of relativity. In his theory, changes in the shape of concentrations of mass (or energy) warp space-time, causing distortions that propagate through the Universe at the speed of light. However, no direct detection of such waves has yet been made some 85 years later. A new generation of detectors based on interferometric techniques promises sensitivities that will be capable of detection from a variety of catastrophic events, such as the gravitational collapse of stars or the coalescence of compact binary systems. The most ambitious project to search for such sources is the Laser Interferometer Gravitational-wave Observatory (LIGO), which will become operational within the next few years.

Date: **Wednesday, December 5, 2001**

Time: **11:00 a.m.**

Location: **402 Auditorium**

Refreshments will be served at 10:45 a.m.